

Parameter	S1:SS, S2:SS, S3:SS, IS1:CC, IS2:CC
STAGE 1	STAGE 1
stage length [m]	30.8
dry mass [kg]	7413
filled propellant [kg]	93658
unuseable propellant [kg]	912
vacuum lsp [s]	322
vacuum thrust [kN]	1547
sea level thrust at takeoff [kN]	1365
engine nozzle exit area [m^2]	1.80
wall thickness [mm]	1.67
sigma [-]	0.0344
tank pressure [bara]	7.0
interstage mass [kg]	145
interstage thickness [mm]	3.7
STAGE 2	STAGE 2
stage length [m]	6.6
dry mass [kg]	1671
filled propellant [kg]	10777
unuseable propellant [kg]	65
vacuum lsp [s]	349
vacuum thrust [kN]	97
engine nozzle exit area [m^2]	1.09
wall thickness [mm]	1.67
sigma [-]	0.0692
tank pressure [bara]	7.0
interstage mass [kg]	82
interstage thickness [mm]	3.7
STAGE 3	STAGE 3
stage length [m]	1.7
fairing length [m]	4.3
dry mass [kg]	327
filled propellant [kg]	480
unusable propellant [kg]	8
vacuum lsp [s]	305
vacuum thrust [kN]	1.6
engine nozzle exit area [m^2]	0.067
aspect ratio whole rocket [-]	19.4
payload mass [kg]	2172.54